

DATA EVALUATION REVIEW 7

I. Study Type: Volatility, Soil (163-2)

II. Citation:

Sarafin, R., Hoe 064619 Assessment of Volatilization from Soil, performed by Hoechst AG, Frankfort am Main, Federal Republic of Germany, submitted by Hoechst Celanese Corporation, Somerville, NJ, USA. dated 12/30/89. Received EPA 12/12/89 under MRID # 413231-22.

III. Reviewer:

Typed Name: E. Brinson Conerly
Title: Chemist, Review Section 2
Organization: EFGWB/EFED/OPP

E.B. Conerly 5/10/90

IV. Conclusions:

The measured vapor pressure reported in this document does not meet the criterion for waiving the requirement for soil volatility data. If the applicant supplies information on the modeling program, and other information discussed below, EFGWB can reconsider.

V. Materials and Methods: n.a.

VI. Study Author's Results and/or Conclusions:

Glufosinate ammonium decomposed in the measuring device (vapor pressure balance), yielding a "pseudo" vapor pressure of 5.9×10^{-4} at 22° C. This was taken as a "worst-case" upper limit for the theoretical real value. The aqueous solubility is extremely high, at 1.37 kg/L [3 lb/qt]. This parameter is an indicator of partition between soil and air. The partitioning of glufosinate ammonium was modeled using MACKAY level 1, with the following results:

water	-- 69.83%
soil	-- 28.16%
sediment	-- 2.01%
<u>air</u>	-- <u>0.00%</u>
suspended sediment	-- 0.00%
aquatic biomass	-- 0.00%

Based on the low vapor pressure and high aqueous solubility, volatility of glufosinate ammonium from soil is expected to be minimal. A waiver of this data requirement is requested.

VII. Reviewer's Comments:

Upon request of an applicant, EFGWB will usually waive the volatility requirement for a compound with vapor pressure $< 10^{-7}$. Glufosinate ammonium does not meet this criterion. Although the observed vapor pressure may result from loss of ammonia, this has not been demonstrated in the submission.

The stated solubility value of 1.37 kg/l is indeed extremely high, but is somewhat less than that known for other compounds, e.g., sucrose (2 kg/l, per

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Merck index). For the record, the applicant should verify that this is not a typographical error -- e.g. mg where ug is intended.

EFGWB staff are not familiar with the specific model used. The applicant should provide the equations upon which the model is based, if known, so that it may be evaluated as supporting evidence to justify the requested waiver.

VIII. CBI Information Addendum: attached

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